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B.—*Muscles of the Fore Limb* (Female).

	Grs.
1. Trapezius et deltoideus clavicularis vel internus,	335
2. Rhomboideus (with occipital slip),	276
3. Serratus magnus,	473
4. Sternomastoideus,	210
5. Cleidomastoideus,	85
6. Omo-atlanticus,	100
7. Latissimus dorsi,	652
8. Teres major,	94
9. Subscapularis,	231
10. Pectoralis minor,	297
11. Pectoralis major,	210
12. Deltoideus scapularis (externus),	88
13. Supraspinatus,	308
14. Infraspinatus,	220
15. Triceps humeri,	858
16. Biceps humeri,	90

The Rev. Samuel Haughton, M. D., Fellow of Trinity College, Dublin, read the following paper:—

Notes on Animal Mechanics.

No. XIV.—On the Muscles of the Virginian Bear.

In April, 1865, one of the fine Virginian Bears of the Zoological Gardens of Dublin, a female, having fallen into a depressed condition of health, an abscess appeared under the fascia covering the great trochanter of the right thigh, which she persisted in gnawing at to such an extent as to render her an object very unattractive to visitors to the Gardens. She was accordingly sentenced to death by the Council, and the sentence was carried into execution on the 1st of May, 1865, as follows:—

I gave her 12·4 grs. of pure strychnia, in an apple, at 3·17 p. m., and she was dead at 3·52 p. m., having exhibited the following symptoms:—

1. At 20 minutes after dose, her breathing became distressed (108 in the minute);
2. At 24 minutes, she experienced her first tetanic convulsion, the spasm of which never completely relaxed;
3. At 34 minutes, she seemed to be dead;
4. At 35 minutes, she was completely dead, and her heart had ceased to beat.

A.—*Muscles of the Hind Limb.*

	Oz. Av.
1. Iliacus,	4·90
2. Psoas magnus,	
3. Pectinæus,	1·60
4. Adductor magnus,	14·90
5. Obturator externus,	8·50
6. Adductor longus,	2·10
7. Quadratus femoris,	0·67
8. Obturator internus et gemelli,	1·33
9. Glutæus maximus,	4·80
10. Glutæus medius,	6·00
11. Pyriformis,	0·95
12. Glutæus minimus,	0·45

	Oz. Av.		Oz. Av.
13. Biceps femoris, . . .	15·70	18. Sartorius, ...	5·20
14. Semimembranosus, . .	2·70	19. Rectus femoris, . . .	6·40
15. Semitendinosus, . . .	4·40	20. Vastus externus, . .	8·80
16. Gracilis, ...	6·20	21. Vastus internus, . . .	3·40
17. Tensor vaginæ femoris,	2·50	22. Cruræus, ...	0·50

23. Gastrocnemido-solæus, ... 8·10

	Oz.
α. From outer condyle, . . .	4·0
β. From inner condyle, . . .	1·6
γ. From fibula, ...	2·5
	8·10

24. Poplitæus, ... 0·54

Arises by a strong tendon from the outer side of the outer condyle, inside the knee joint, and is inserted into the upper half of the tibia.

25. Flexor digitorum longus,* . . . . 2·30

26. Flexor hallucis longus,* . . . . 0·53

27. Tibialis posticus, ... 0·38

28. Flexori digitorum longo accessorius, ... 0·12

29. Flexor brevis perforatus, ... 0·11

30. Tibialis anticus, ... 1·22

31. Extensor hallucis, ... 0·11

Inserted into the back and outer side of the first phalanx of the hallux.

32. Extensor digitorum longus, ... 1·31

There are also several slips of the *extensor brevis* arising from the surface of the os calcis, in front of the astragalus.

33. Peronæus tertius, ... 0·17

Inserted into the outer side of the first phalanx of the little toe.

34. Peronæus brevis, ... 0·24

Inserted into the outer side of the base of the metatarsal of little toe.

35. Peronæus longus, ... 0·41

Inserted, after crossing the sole of the foot, into the outer side of the base of the metatarsal of the hallux.

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* The *flexor hallucis* tendon is united to the *flexor digitorum longus* tendon in the sole of the foot.

B.—*Muscles of the Fore Limb.*

	Oz. Av.
1. Trapezius clavicularis,	5·90
2. Trapezius scapularis,	9·20
3. Rhomboideus,	—
4. Cleidomastoideus (rope-like muscle),	1·11
5. Omo-atlanticus,	4·40
6. Serratus magnus,	14·10
7. Latissimus dorsi,	12·50
8. Teres major,	2·50
9. Subscapularis,	6·10
10. Pectoralis minor,	1·06
11. Pectoralis major,	15·80
12. Deltoideus clavicularis,	2·80
13. Deltoideus scapularis,	4·50
14. Supraspinatus,	5·60
15. Infraspinatus,	5·10
16. Teres minor,	0·42
17. Infraspinatus secundus,	17·3

May be regarded as belonging either to *subscapularis* or to *infraspinatus*, and is equivalent to *glutæus quintus.*

18. Coracobrachialis,	0·68
19. *Coracobrachiali accessorius* (like the gemelli),	0·33
20. Triceps humeri, including the fourth or *latissimus dorsi* head, which is 1·70 oz.,	21·70
21. Brachiæus (externus),	3·30
22. Biceps humeri,	4·70
23. Supinator radii longus,	0·89
24. Extensor carpi radialis longior,	0·63

Inserted into the base of the metacarpal of index finger.

25. Extensor carpi radialis brevior,	1·01

Inserted into the base of metacarpal of middle finger.

26. Extensor digitorum communis,	1·06
27. Extensor carpi ulnaris,	1·16

Inserted in the outer side of base of metacarpal of little finger.

28. Extensor minimi digiti (auricularis),	0·61

Distributed to the ungual phalanges of third, fourth, and fifth fingers.

29. Extensor ossis metacarpi pollicis,	1·31

Inserted in the outer side of base of metarcarpal of pollex.

		Oz. Av.
30. Extensor (secundi) internodii pollicis,		0·34
Inserted into the ungual phalanx of pollex.		
31. Supinator radii brevis,		0·81
32. Pronator radii teres,		1·61
33. Flexor carpi radialis,		1·03
34. Palmaris longus,		1·60
35. Flexor carpi ulnaris,		1·42
36. Flexor digitorum sublimis, 37. Flexor digitorum profundus, 38. Flexor pollicis longus,	Terminate in a common tendon, which is distributed to the ungual phalanges of the five fingers; and the upper portion of the common tendon, corresponding to that of the *flexor sublimis*, sends a separate thin slip to the index finger, which slip lies above the index branch of the common tendon.	8·40
39. Pronator quadratus,		0·43

Arises from the lower third of the ulna, and is inserted into the lower fourth of the radius.

The Rev. Samuel Haughton, M. D., Fellow of Trinity College, Dublin, read the following paper:—

Notes on Animal Mechanics.

No. XV.—On the Muscular Anatomy of the Otter (*Lutra vulgaris*).

In March, 1865, I dissected a very fine male Otter, which had lived ten years in the Zoological Gardens of Dublin, and was well known to all the frequenters of those Gardens, from his playful and docile habits. He died of miliary tubercle, accompanied by pneumonic congestion of both lungs; and his right auricle and ventricle, with the two cavæ and hepatic vein, were filled with clotted blood, the result of the pulmonary obstruction.

This beautiful animal was originally presented to the Dublin Gardens by Dr. Horne, of Ballinasloe, on the 8th of March, 1855, and died on the 27th of February, 1865.

The Council of the Zoological Society have made many attempts to rear young Otters, but their exertions have seldom been rewarded with success, owing to the extreme difficulty of procuring suitable food; for the Otter, although aquatic and piscivorous in its habits, is nursed on mother's milk, in a dry warm nest, for a longer period than most carnivorous animals. As the habits of the Otter in this country, in its wild state, are but little known, I make no apology for inserting in this place the following account of the *Lutra vulgaris*, prefatory to my description of its muscles—an account for which I am indebted to Mr. Robert Montgomery, the Secretary of the Royal Zoological Society of Ireland, who has had many opportunities of studying its habits in a state of nature. I can myself bear testimony to the fact, that when cray fish